

TRAITE DE COOPERATION EN MATIERE DE BREVETS

PCT

Rec'd PCT/PTO 09 DEC 2005

RAPPORT D'EXAMEN PRELIMINAIRE INTERNATIONAL

(article 36 et règle 70 du PCT)

REC'D 09 MAR 2004

WIPO PCT
10/517909

Référence du dossier du déposant ou du mandataire	POUR SUITE A DONNER voir la notification de transmission du rapport d'examen préliminaire international (formulaire PCT/IPEA/416)	
Demande Internationale No. PCT/FR 03/01763	Date du dépôt international (jour/mois/année) 12.06.2003	Date de priorité (jour/mois/année) 14.06.2002
Classification Internationale des brevets (CIB) ou à la fois classification nationale et CIB C07D233/54		
Déposant LABORATOIRES FOURNIER SA et al.		

1. Le présent rapport d'examen préliminaire international, établi par l'administration chargée de l'examen préliminaire international, est transmis au déposant conformément à l'article 36.



2. Ce RAPPORT comprend 5 feuilles, y compris la présente feuille de couverture.

- ☐ Il est accompagné d'ANNEXES, c'est-à-dire de feuilles de la description, des revendications ou des dessins qui ont été modifiées et qui servent de base au présent rapport ou de feuilles contenant des rectifications faites auprès de l'administration chargée de l'examen préliminaire international (voir la règle 70.16 et l'instruction 607 des Instructions administratives du PCT).

Ces annexes comprennent feuilles.

3. Le présent rapport contient des indications et les pages correspondantes relatives aux points suivants :

- I ☒ Base de l'opinion
- II ☐ Priorité
- III ☐ Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle
- IV ☐ Absence d'unité de l'invention
- V ☒ Déclaration motivée selon la règle 66.2(a)(ii) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration
- VI ☐ Certains documents cités
- VII ☐ Irrégularités dans la demande internationale
- VIII ☐ Observations relatives à la demande internationale

Date de présentation de la demande d'examen préliminaire internationale 17.12.2003	Date d'achèvement du présent rapport 08.03.2004
Nom et adresse postale de l'administration chargée de l'examen préliminaire international  Office européen des brevets D-80298 Munich Tél. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Fonctionnaire autorisé Schuemacher, A N° de téléphone +49 89 2399-7818 

**RAPPORT D'EXAMEN
PRÉLIMINAIRE INTERNATIONAL**

Demande internationale n°

PCT/FR 03/01763

6. Observations complémentaires, le cas échéant :

V. Déclaration motivée selon l'article 35(2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration

1. Déclaration			
Nouveauté	Oui:	Revendications	1-12
	Non:	Revendications	
Activité inventive	Oui:	Revendications	1-12
	Non:	Revendications	
Possibilité d'application industrielle	Oui:	Revendications	1-12
	Non:	Revendications	

2. Citations et explications

voir feuille séparée

Concernant le point V

Déclaration motivée selon l'article 35(2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration

1. Nouveauté, Article 33(2) PCT:

Il est fait référence aux documents suivants:

D1: WO 00 75107 A (NOVARTIS AG) 14 décembre 2000

D2: WO 98 03503 A (FOURNIER INDUSTRIE ET SANTÉ) 29 janvier 1998 cité dans la demande

Au vue de l'art antérieur divulgué dans les documents cités ci-dessus, l'objet de la présente demande satisfait les critères de nouveauté de l'Article 33(2) PCT :

En effet, les composés revendiqués diffèrent des sulfonamides de D1, entre autre, par la présence du groupement terminal amidine $C(=NR^3)NR^4R^5$.

Les composés de D2 diffèrent des composés revendiqués par la présence du cycle quinoline.

Les critères de l'Article 33(2) PCT sont donc considérés comme satisfaits.

2. Activité inventive, Article 33(3) PCT:

L'objet de la présente demande concerne les composés dérivés d'arylsulfonamides de formule (I) selon la revendication 1 utiles pour le traitement de la douleur et des maladies inflammatoires.

Les documents D1 et D2 décrivent des dérivés d'arylsulfonamides également utiles pour le traitement de la douleur et de maladies inflammatoires. Il est à noter que les composés de D2 agissent en tant qu' agonistes de la bradykinine B2 alors que les composés de D1, tout comme les composés revendiqués, agissent en tant qu'antagonistes de la bradykinine B1.

Le problème technique que se propose de résoudre la présente invention peut donc être considéré comme étant la mise à disposition de nouveaux antagonistes de la bradykinine B1 destinés au traitement de la douleur.

La structure des composés revendiqués n'est pas dérivable de façon évidente ou par de simples transformations des sulfonamides de D1 ou D2 et il n'existe pas dans l'art antérieur d'indication qui inciterait l'homme du métier à modifier les composés de D1 ou D2 pour arriver de façon évidente aux composés de formule (I) de la présente revendication 1.

La présente demande contient des résultats de tests de douleur démontrant que les composés revendiqués possèdent effectivement des propriétés analgésiques ainsi que des tests démontrant que leur mode d'action fait intervenir un antagonisme au récepteur B1 de la bradykinine.

L'objet de la présente demande implique par conséquent une activité inventive reposant sur les propriétés analgésiques des composés de formule (I) selon la revendication 1.

Translation

PATENT COOPERATION TREATY

PCT/FR2003/001763



PCT Rec'd PCT/PTO 09 DEC 2005

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

10/517909

Applicant's or agent's file reference 151440MN24FD	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/001763	International filing date (day/month/year) 12 juin 2003 (12.06.2003)	Priority date (day/month/year) 14 juin 2002 (14.06.2002)
International Patent Classification (IPC) or national classification and IPC C07D 233/54, A61K 31/4164, 31/18, A61P 25/04, C07D 239/06, 409/12, C07C 311/16, C07D 249/08		
Applicant LABORATOIRES FOURNIER SA		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 17 décembre 2003 (17.12.2003)	Date of completion of this report 08 March 2004 (08.03.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FR2003/001763

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed

☒ the description:

pages 1-105, as originally filed
pages, filed with the demand
pages, filed with the letter of

☒ the claims:

pages 1-12, as originally filed
pages, as amended (together with any statement under Article 19
pages, filed with the demand
pages, filed with the letter of

☐ the drawings:

pages, as originally filed
pages, filed with the demand
pages, filed with the letter of

☐ the sequence listing part of the description:

pages, as originally filed
pages, filed with the demand
pages, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/fig

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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International application No.
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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims	1-12	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

2. Citations and explanations

1. Novelty, PCT Article 33(2):

Reference is made to the following documents:

D1: WO 00 75107 A (NOVARTIS AG) 14 December 2000
D2: WO 98 03503 A (FOURNIER INDUSTRIE ET SANTE) 29 January 1998, cited in the application.

In view of the prior art disclosed in the above-mentioned documents, the subject matter of the present application meets the requirements of novelty (PCT Article 33(2)):

Indeed, the claimed compounds differ from the sulphonamides according to D1, inter alia, by virtue of the presence of an amidine terminal grouping $C(=NR^3)NR^4R^5$.

The compounds of D2 differ from the claimed compounds by virtue of the presence of a quinoline ring.

The requirements of PCT Article 33(2) are therefore considered to be met.

2. Inventive step, PCT Article 33(3):

The subject matter of the present application relates to arylsulphonamide derivatives of formula (I) according to claim 1, useful for the treatment of pain and inflammatory diseases.

Documents D1 and D2 describe arylsulphonamide derivatives that are also useful for the treatment of pain and inflammatory diseases. It should be noted that the compounds of D2 act as bradykinine B2 agonists, whereas the compounds of D1 and the claimed compounds act as bradykinine B1 antagonists.

The technical problem that the present invention aims to solve can therefore be considered to be that of providing novel bradykinine B1 antagonists for the treatment of pain.

The structure of the claimed compounds cannot be derived in an obvious manner or by means of simple transformations from the sulphonamides of D1 or D2, and the prior art does not provide any indication leading a person skilled in the art to modify the compounds of D1 or D2 in order to arrive in an obvious manner at the compounds of formula (I) of the current claim 1.

The present application contains results of pain tests demonstrating that the claimed compounds do indeed have analgesic properties, as well as results of tests demonstrating that the mode of action is based on an antagonistic effect in relation to the bradykinine B1 receptor.

Consequently, the subject matter of the present

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International application No.

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application involves an inventive step based on the analgesic properties of the compounds of formula (I) of claim 1.